

# Claims

- [c0001] 1. A method of generating a UWB pulse train signal, comprising:
- modulating a data signal into a pulse train signal;
  - splitting the modulated pulse train signal into a first and a second signal;
  - phase shifting the first signal 180°;
  - combining the phase shifted signal and the second signal; and
  - filtering out negative or positive amplitudes of the combined signal.
- [c0002] 2. The method of claim 1, further comprising amplifying the filtered, combined signal and transmitting the amplified, filtered, combined signal.
- [c0003] 3. The method of claim 1, wherein the pulse width of the combined signal is proportional to a grounded line length that is used to perform the phase shift.
- [c0004] 4. The method of claim 1, wherein the pulse width is variable according to programmable delays incorporated into a grounded line that is used to perform the phase shift.

[c0005] 5. The method of claim 1, wherein the phase shifting is performed by reflecting the first signal in a grounded line.

[c0006] 6. A UWB signal generator system, comprising:  
an input clock capable of generating a modulated pulse train signal;  
a grounded line, communicatively coupled to the input clock, capable of phase shifting the modulated pulse train signal 180°;  
an output line, communicatively coupled to the grounded line and the input clock, capable of combining the modulated pulse train signal and the phase shifted signal; and  
a filter, communicatively coupled to the output line, capable of filtering out negative or positive amplitudes of the combined signal.

[c0007] 7. The system of claim 6, further comprising  
an amplifier communicatively coupled to the filter, capable of amplifying the filtered, combined signal; and  
a transmitter, communicatively coupled to the amplifier, capable of transmitting the amplified, filtered, combined signal.

[c0008] 8. The system of claim 6, wherein the pulse width of the

combined signal is proportional to the grounded line length.

[c0009] 9. The system of claim 6, further comprising a programmable delay incorporated into the ground line and wherein the pulse width is variable according to the programmable delay.

[c0010] 10. The system of claim 6, further comprising a diode interposed between the grounded line and the input clock that prevents bounce back of the phase shifted signal to the input clock.

[c0011] 11. The system of claim 6, wherein the filter includes a Schottky diode.

[c0012] 12. A wireless device incorporating the system of claim 6.

[c0013] 13. A system, comprising:

means for modulating a data signal into a pulse train signal;

means for splitting the modulated pulse train signal into a first and a second signal;

means for phase shifting the first signal 180°;

means for combining the phase shifted signal and the second signal; and

means for filtering out negative or positive amplitudes of

the combined signal.